Jetstream-31 (J31) Flight Report for INTEX-ITCT
Flight 25 & 26 - 8 August 2004

Langley plot calibration

Cabin Crew: Livingston, Howard, Schmid.

Overview
Flight 25 was aborted on runway. Subsequently pilots performed a short test flights without cabin crew and all instruments off.

Flight 26 was the last J31 research flight out of Pease. The goal was to perform a Langley plot calibration. Goal achieved. J31 and its instruments performed well.

Flight Path, Timing, and Measurements
Flight path is shown in Figure 1 below. Take off at 2107 UT.

Climbed to 21kft. Started Langley runs. Avoiding Ci was successful 95% of the time thanks to pilots. ATC forced us to climb to 22kft. But no impact on Langley.

Touchdown at 2350 UT.

During ICARTT we obtained 4 successful airborne Langley cals for AATS-14.
All AATS-14 channels except 1240 nm agree within 0.6% with the pre-mission Mauna Loa calibration. 1240 nm degraded by 1.2%.

Instrument status
AATS-14; OK
POS: OK.
Nav/Met: OK
SSFR:OK

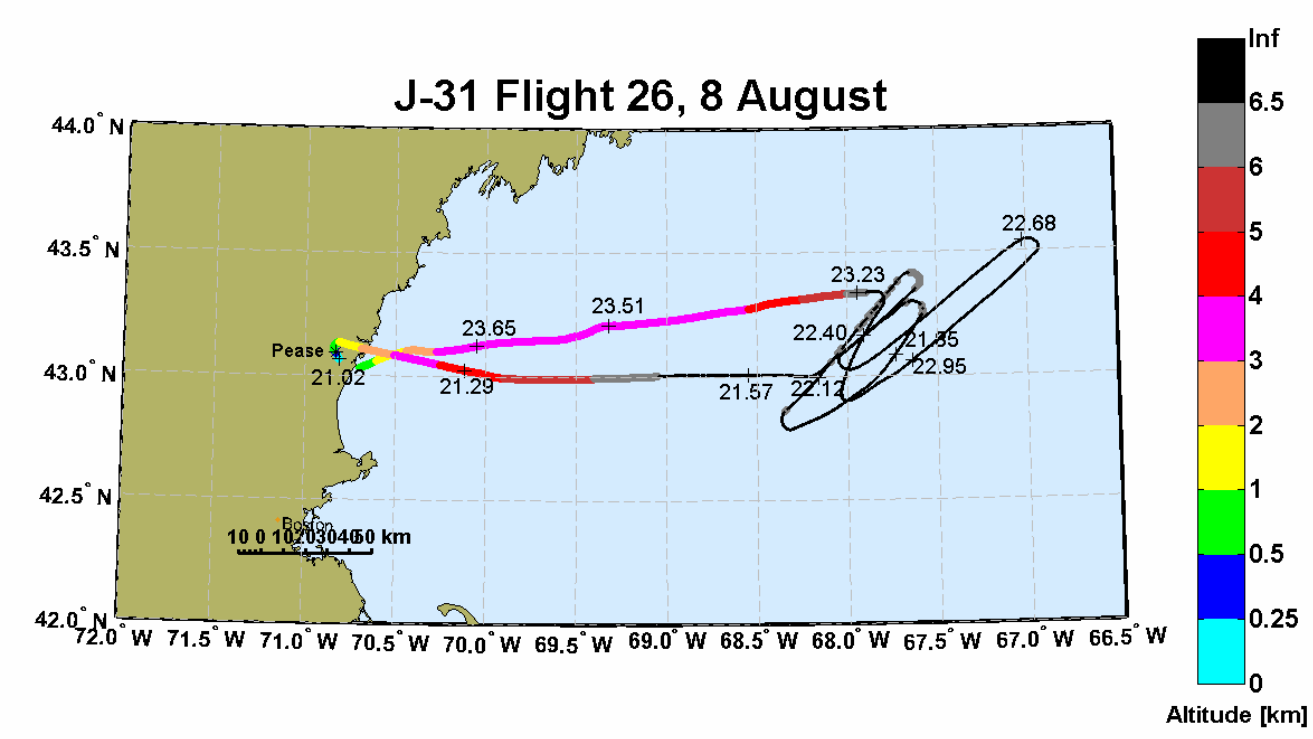

Figure 1. Flight track of J-31, Flight 26, August 8, 2004.

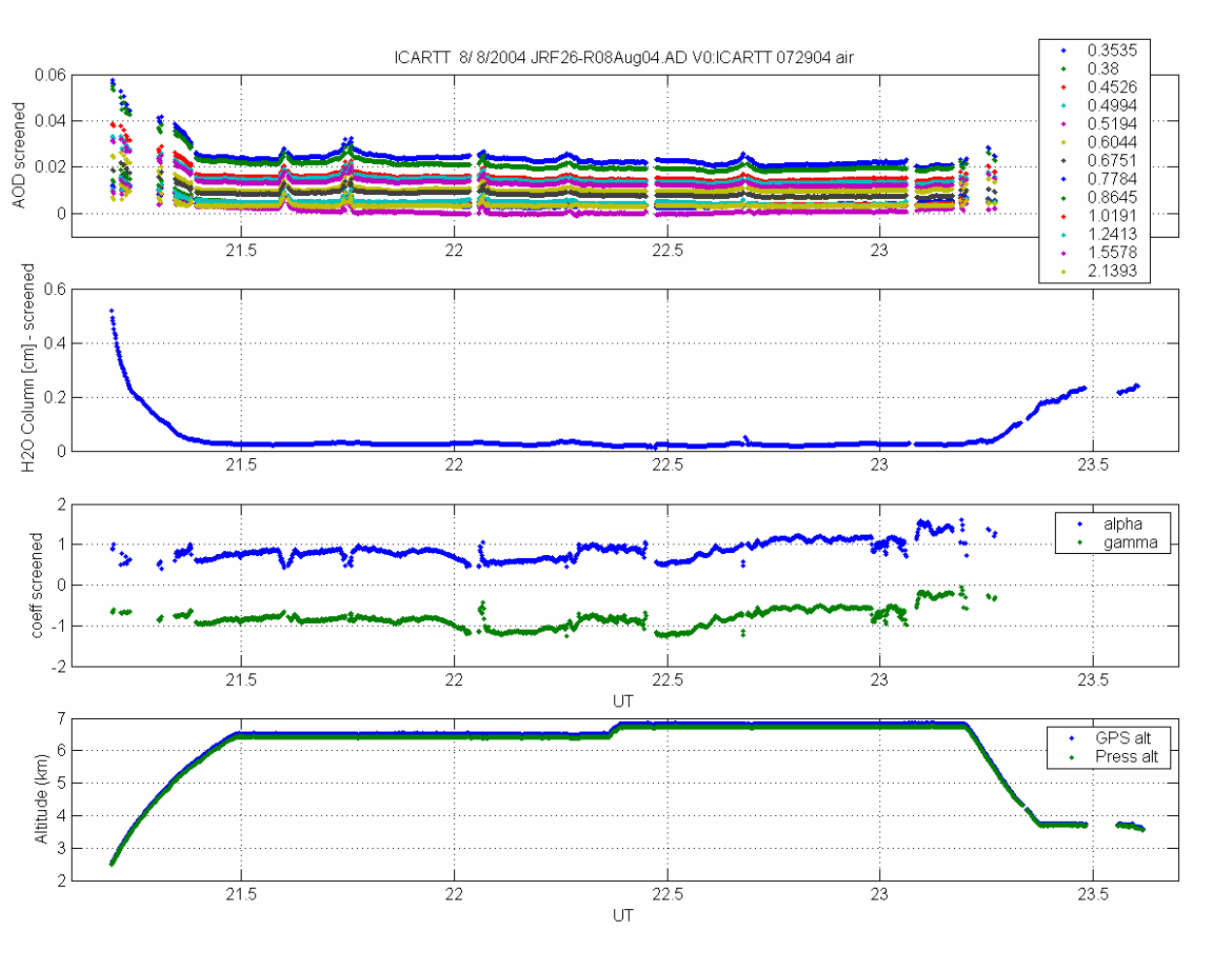

Figure 2. Time series of AATS-14 retrieved AOD, water vapor column, spectral coefficients and flight altitude for J-31 Flight 26, August 8, 2004.

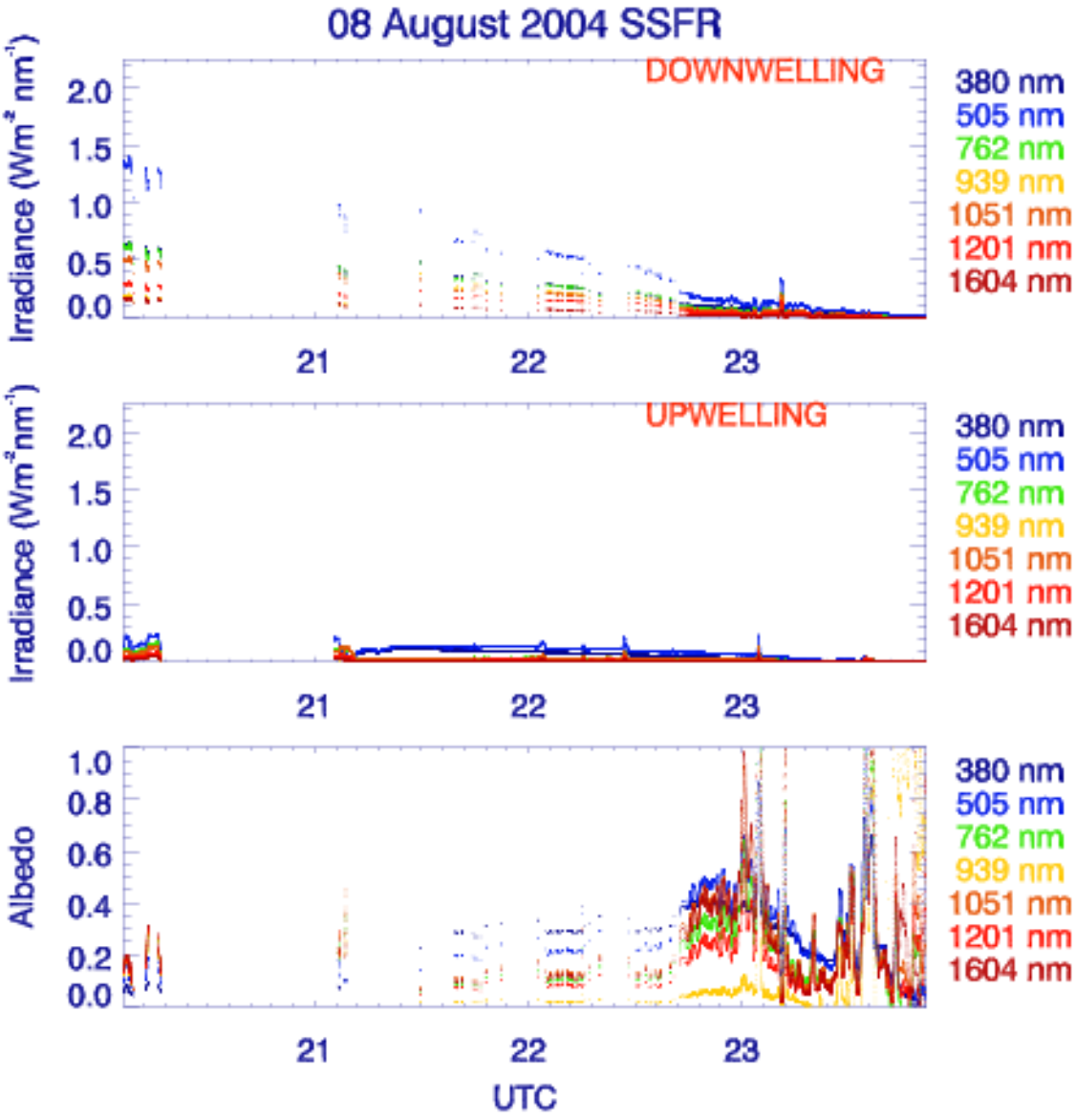

Figure 3. Time series of SSFR-measured downwelling and upwelling irradiance and albedo for J31 Flight 26, Aug 8, 2004. The downwelling (and albedo) has been filtered to remove data when the aircraft attitude deviated by more than than 3% from level. The fact that J31 was in a spiral for some of the flight produces the speckled pattern in the downwelling and albedo time series.